CLAIMS:

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1. A method of measuring the movement of an input device and an object relative to each other along at least one measuring axis, the method comprising the steps of:

- illuminating an object surface with a measuring laser beam for each measuring axis, and

- converting a selected portion of the measuring beam radiation reflected by the surface into an electric signal, which is representative of the movement along said measuring axis, characterized in that measuring beam radiation reflected back along the measuring beam and re-entering the laser cavity, which emits the measuring beam, is selected and in that changes in operation of the laser cavity, which are due to interference of the re-entering radiation and the optical wave in the laser cavity and are representative of the movement, are measured.

2. A method as claimed in claim 1, characterized in that the direction of movement along said at least one measuring axis is detected by determining the shape of the signal representing the variation in operation of the laser cavity.

3. A method as claimed in claim 1, characterized in that the direction of movement along said at least one measuring axis is determined by supplying the laser cavity with a periodically varying electric current and comparing first and second measuring signals with each other, which first and second measuring signals are generated during alternating first half periods and second half periods, respectively.

4. A method as claimed in claim 3, characterized in that the first and second measuring signals are subtracted from each other.

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5. A method as claimed in ~~claim 1, 2, 3 or 4,~~ characterized in that it is used to determine a click action by a single movement of the object and the input device relative to each other along an axis, which is substantially perpendicular to the object surface.

6. A method as claimed in claim 1, 2, 3, 4 or 5, characterized in that it is used to determine both a scroll action and a click action by movement of the object and the input device relative to each other in a first direction parallel to the object surface and in a second direction substantially perpendicular to the object surface.

7. A method as claimed in any one of claims 1-6, characterized in that the impedance of the diode laser cavity is measured.

8. A method as claimed in any one of claims 1-6, characterized in that the intensity of the laser radiation is measured.

9. An input device provided with an optical module for carrying out the method of claim 1, which module comprises at least one laser, having a laser cavity, for generating a measuring beam, optical means for converging the measuring beam in a plane near the object and converting means for converting measuring beam radiation reflected by the object into an electric signal, characterized in that the converting means are constituted by the combination of the laser cavity and measuring means for measuring changes in operation of the laser cavity, which are due to interference of reflected measuring beam radiation re-entering the laser cavity and the optical wave in this cavity and are representative of a relative movement the object and the module.

10. In input device as claimed in claim 9, characterized in that the measuring means are means for measuring a variation of the impedance of the laser cavity.

11. An input device as claimed in claim 9, characterized in that the measuring means is a radiation detector for measuring radiation emitted by the laser.

12. An input device as claimed in claim 11, characterized in that the radiation detector is arranged at the side of the laser cavity opposite the side where the measuring beam is emitted.

13. An input device as claimed in claim 9, 10, 11 or 12, characterized in that it comprises at least two diode lasers and at least one detector for measuring a relative

movement of the object and the device along a first and a second measuring axis, which axes are parallel to the illuminated surface of the object.

14. An input device as claimed in claim 9, 10, 11 or 12, characterized in that it comprises three diode lasers and at least one detector for measuring a relative movement of the object and the device along a first, a second and a third measuring axis, the first and second axes being parallel to the illuminated surface of the object and the third axis being perpendicular to this surface.

15. An input device as claimed in claim 9, 10, 11 or 12, for determining both a scroll action and a click action, characterized in that it comprises two diode lasers and at lest one detector for measuring relative movements of the object and the device along a first measuring axis parallel to the object surface and along a second measuring axis substantially perpendicular to the object surface.

16. An input device as claimed in claim 9, 10, 11 or 12, for determining both a scroll action and a click action, characterized in that it comprises two diode lasers and at least one detector for measuring relative movements of the object and the device along a first and a second measuring axis, which axes are at opposite angles with respect to a normal to the object surface.

17. An input device as claimed in any one of claims 9-16, characterized in that the optical means comprises a lens arranged between said at least one laser and associated detector, on the one hand, and an action plane, on the other hand, the at least one laser being positioned eccentrically with respect to the lens.

18. An input device as claimed in claim 17, comprising two diode lasers, characterized in that the diode lasers are arranged such that the lines connecting their centers with the optical axis of the lens are at an angle of substantially 90^0 with respect to each other.

19. An input device as claimed in claim 17, comprising three diode lasers, characterized in that the diode lasers are arranged such that the lines connecting their centers with the optical axis of the lens are at an angle of substantially 120^0 with respect to each other.

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20. An input device as claimed in any one of claims 7 to 19, characterized in that each diode laser is a horizontal emitting laser and in that the device comprises, for each diode laser, a reflecting member reflecting the beam from the associated diode laser to an action plane.

21. An input device as claimed in any one of claims 9 to 20, characterized in that it is composed of a base plate on which the at least one diode laser and associated detector are mounted, a cap member fixed to the base plate and comprising a window and a lens accommodated in the cap member.

22. An input device as claimed in claim 21, characterized in that the lens is integrated in the cap member having an internal surface which is curved towards the base plate.

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23. An input device as claimed in claim 21 or 22, characterized in that the base plate, the cap member and the lens are made of a plastic material.

24. An input device as claimed in any one of claims 9-14, characterized in that each diode laser is coupled to the entrance side of a separate light guide, the exit side of which is positioned at the window of the device.

25. An input device as claimed in claim 24, characterized in that the light guides are optical fibres.

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26. An input device as claimed in claim 24 or 25, characterized in that it comprises three diode lasers and three light guides, and in that the exit sides of the light guides are arranged in a circle at a mutually angular spacing of substantially 120^0.

27. A mouse for a desktop computer, comprising an input device as claimed in any one of claims 9-26.

28. A keyboard for a desktop computer wherein an input device as claimed in any one of claims 9-26 is integrated.

29. A laptop computer wherein an input device as claimed in any one of claims 9-26 is integrated.

30. A display wherein an input device as claimed in any one of claims 9-26 is integrated.

31. An ultrasound diagnostic apparatus wherein at least one input device as claimed in any one of claims 9-14 and 17-26 is integrated.

32. A hand-held scanner apparatus wherein at least one input device as claimed in any one of claims 9-14 and 17-26 is integrated.

33. A remote control unit wherein at least one input device as claimed in any one of claims 9-26 is integrated.